

## New species and new records of the genus *Scopodes* Erichson from western New Guinea

### Second supplement to the “Revision of the genus *Scopodes* Erichson from New Guinea”

(Insecta, Coleoptera, Carabidae, Pentagonicinae)\*

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Three species of the genus *Scopodes* from New Guinea are newly described: *Scopodes hornabrooki*, spec. nov. from Papua New Guinea, and *Scopodes perignitus*, spec. nov. and *S. interruptus*, spec. nov., both from western New Guinea (central Irian Jaya). The male genitalia of *Scopodes amplipennis* Baehr are described and figured for the first time. New records of *Scopodes adonis* Darlington, *S. atricornis* Baehr, *S. aspericollis* Baehr, *S. chimbu viridans* Baehr, *S. darlingtoni* Baehr, *S. foveipennis* Baehr, *S. minor* Baehr, *S. muliae* Baehr, *S. violaceus* Baehr, *S. wei* Bell & Bell, and *S. wilsoni* Darlington are dealt with. *Scopodes adonis* and *S. minor* are now known also from Japan Island and *S. adonis* is also recorded for central Papua New Guinea.

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#### Introduction

Within a sample of Carabidae collected by A. Riedel (München) during his most recent trip to central Irian Jaya (western New Guinea) two new species of the genus *Scopodes* were included as well as a new record of *S. muliae* Baehr and the hitherto unknown male of the recently described *S. amplipennis* Baehr. The new species and the ♂ genitalia of *S. amplipennis* are herein described.

Within material recently collected in Irian Jaya by P. Schüle and P. Stüben (Düsseldorf) three *Scopodes* species were included (*S. violaceus* Baehr, *S. adonis* Darlington, and *S. atricornis* Baehr) that markedly enlarge the known range of at least two of them. Especially the records of *S. adonis* from Japan Island and central Papua New Guinea are noteworthy, because this species thus far was assumed to possess a rather restricted range.

Carabid material collected almost thirty years ago mainly in Papua New Guinea by R. W. Hornabrook though only recently received for identification yielded several *Scopodes* species including a new one and material of some species described recently by me. Some of the new records again enlarge the known range of several species and are thus also worth noting.

\* In parts results of the entomological collections of A. Riedel in New Guinea 1996.

As mentioned in previous papers (Baehr 1994, 1995) the genus *Scopodes* is extremely diverse and numerous in terms of species in New Guinea, and apparently many species are restricted to rather limited areas. This is surprising, because all known species (except for the high altitude species *S. altus* Darlington) apparently belong to one stock and may even have been derived from a single ancestor. The extremely fragmented highlands that run through the whole of New Guinea presumably have supported the rapid evolution of these predominantly montane beetles and also are responsible for the high degree of local endemism. Hence, the prediction that more (perhaps many more) species will be detected in future, seems not too bold.

The types of the new species collected by A. Riedel are presented to the Zoologische Staatssammlung, but are stored as permanent loan in the reference collection of the author (ZSM-CBM). The holotype of *S. hornabrooki*, spec. nov. is stored in the Museum of New Zealand, Wellington (MNZ), the paratypes are shared between MNZ and the working collection of the author (CBM).

All measurements and ratios were obtained in the same manner as in the revision (Baehr 1994) and the first supplement (Baehr 1995).

### The species

#### *Scopodes chimbu viridans* Baehr

Fig. 9

Baehr, 1995, p. 113, fig. 9.

This vividly coloured subspecies of *S. chimbu* Darlington was only known from the type locality near Kainantu, central eastern Papua New Guinea. Apart from an additional specimen from central Papua New Guinea, there are now records from central Irian Jaya, that establish a much wider range of this subspecies.

Variation. The specimens from Irian Jaya generally are slightly larger than the eastern ones, but apart from this little variation has been noted.

**New records:** 1♀, Marawaka, Eastern Highlands, New Guinea, R. Hornabrook, May 74 (MNZ); 1♂, Pangia, Southern Highlands, Papua New Guinea, 15.6.75, R. Hornabrook (CBM); 1♂, 3♀♀, Irian Jaya, Indonesia, Pass Valley, 2200 m, Baliem Valley, 20.8.92, R.W. and C.W. Hornabrook (MNZ); 1♂, Irian Jaya, Panai-Pr. Sinak-Ilaga, 2100-2500 m, 15.12.1995, leg. A. Riedel (CBM).

#### *Scopodes muliae* Baehr

Baehr, 1995, p. 113, figs 1, 5, 9.

This species was described from the ♂ holotype only. A second, somewhat defect ♂ (aedeagus wanting) was now obtained and is alluded to this species by means of body shape, colouration, structure of frontal sulci and transverse pronotal ridges, and microstructure of elytra. In all mentioned characters, the additional specimen does not vary substantially from the holotype.

**New record:** 1♂, IRIAN JAYA, Panai-Pr. Bilogay, 2100-2200 m, 29.XII.1995, leg. A. Riedel (CBM).

**Distribution.** The new record does not much enlarge the known distribution of this species that was recorded so far from the type locality only.

#### *Scopodes aspericollis* Baehr

Baehr, 1994, p. 109, figs 6, 33, 56.

This characteristic species was thus far recorded from the vicinity of Wau in central eastern Papua New Guinea. Two records from the Eastern Highlands slightly enlarge the range of this species to the west.

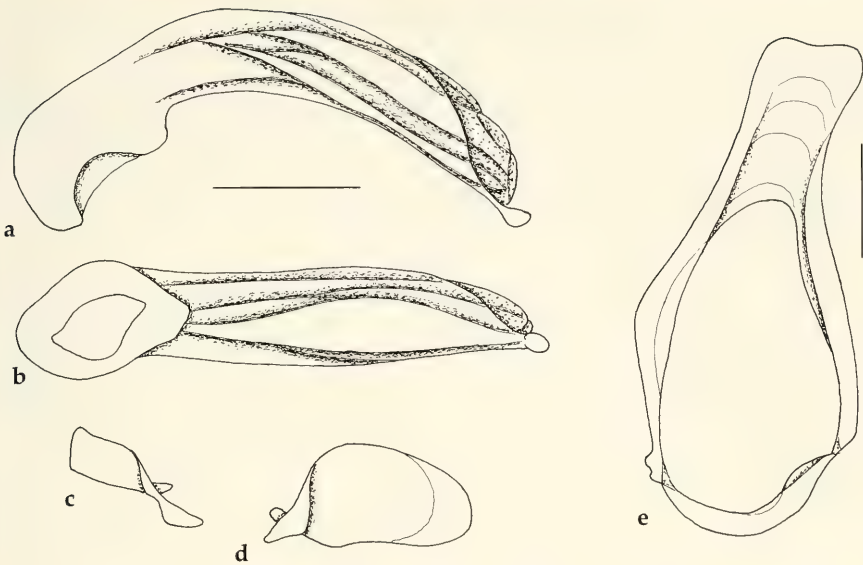


Fig. 1. *Scopodes amplipennis* Baehr. ♂ genitalia. a. Lateral view of aedeagus. b. Lower surface of aedeagus. c. Right paramere. d. Left paramere. e. Genital ring. Scale: 0.25 mm.

**New records:** 1♂, Marifuanga, 19.3.71, Asaro-Chimbu-Divide, New Guinea, R. Hornabrook (MNZ); 1♂, Frisano, Okapa, Eastern Highlands, New Guinea, 15.7.1972, R. Hornabrook (MNZ).

*Scopodes amplipennis* Baehr

Fig. 1

Baehr, 1995, p. 116, figs 2, 6, 9.

This species was described from the ♀ holotype only. Because some ♂ specimens have been recently collected, parts of the description are extended and completed.

**Extended description**

**Measurements.** Length: 3.45-3.55 mm; width: 1.5-1.55 mm. Ratios. Width head/pronotum: 1.25-1.29; width/length of pronotum: 1.20-1.23; width elytra/pronotum: 1.86-1.89; length/width of elytra: 1.19-1.22.

**Colour.** Bronzed-black, head and pronotum with distinct greenish lustre, elytra with greenish-golden lustre, or completely bright green.

**♂ genitalia** (Fig. 1). Genital ring somewhat deformed, asymmetric, fairly narrow. Apex very wide, rectangular, arms moderately wide. Aedeagus large, fairly curved, slightly asymmetric, lower surface rather concave, apex short, knob-like. Orificium fairly short. Parameres large.

**Variation.** The three newly recorded specimens vary from the holotype mainly by colour which is bright green instead of bronzed with greenish-golden lustre.

**Collecting circumstances.** Collected by beating from fallen log.

**New records:** 1♂, 1♀, Irian Jaya, Panai-Pr. Sinak-Ilaga, 2100-2500 m, 15.12.1995, leg. A. Riedel (CBM); 1♂, Irian Jaya, Panai-Pr. Sinak, 2000-2200 m, 14.-17.12.1995, leg. A. Riedel (CBM).

**Distribution.** This species is thus far restricted to a small area in central Irian Jaya.

### *Scopodes wei* Bell & Bell

Bell & Bell, 1989, p. 160; Baehr 1994, p. 112, figs 8, 57.

This characteristic species was so far known only from the type locality near Wau, eastern central Papua New Guinea. Two new records slightly enlarge the range of this species to the west.

**New records:** 1♂, Daulo Pass, 11.9.71, Asaro-Cimbu-Divide, New Guinea, R. Hornabrook (MNZ); 1♀, Marifuan-ga, 23.10.71, Asaro-Cimbu-Divide, New Guinea, R. Hornabrook (MNZ).

### *Scopodes foveipennis* Baehr

Baehr, 1994, p. 116, figs 11, 37, 60.

A very characteristically coloured, widespread species. An additional record from Papua New Guinea falls within the recorded range.

**New record:** 1♀, Frisano, Okapa, Eastern Highlands, New Guinea, 1.7.1972, R. Hornabrook (MNZ).

### *Scopodes wilsoni* Darlington

Fig. 9

Darlington, 1968, p. 200; Baehr, 1994, p. 119, figs 13, 39, 61.

This species was so far known only from northern and eastern central Papua New Guinea. Several new records enlarge the range to the west into the Western Highlands of Papua New Guinea.

**New records:** 3♂♂, 2♀♀, Kassem Pass, E. Highlands, New Guinea, Sept. 71, R. Hornabrook (CBM, MNZ); 1♂, same locality, 29.9.72 (MNZ); 1♀, Karamui, Chimbu Dist., New Guinea, 3500', March 1966, R. W. Hornabrook (MNZ); 2♂♂, ♀, Kwiop, 1.5.70/ Jimi Valley, Western Highlands, N.E. New Guinea, R. Hornabrook (MNZ); 1♂, 2♀♀, Kwima, 30.4.70/ Jimi Valley, Western Highlands, N.E. New Guinea, R. Hornabrook (MNZ); 1♂, 1♀, Marawaka, Eastern Highlands, New Guinea, R. Hornabrook (MNZ).

### *Scopodes darlingtoni* Baehr

Baehr, 1994, p. 122, figs 15, 41, 62; 1995, p. 112.

*Scopodes basalis* Darlington, 1968, p. 200 (nom. praeocc.).

The species ranges over large parts of Papua New Guinea. Two new records fall within the known range.

**New records:** 1♀, Kwiop, 1.5.70/ Jimi Valley, Western Highlands, N.E. New Guinea, R. Hornabrook (MNZ); 1♀, Lufa, 27.4.74, Mt. Michael, New Guinea, R. Hornabrook (MNZ); 1♀, Okapa, Eastern Highlands, New Guinea, Sept. 1971, R. Hornabrook (CBM).

**Collecting circumstances.** The specimen from Lufa was caught "in wood chips".

### *Scopodes minor* Baehr

Fig. 9

Baehr, 1994, p. 131, figs 21, 47, 60; Baehr 1995, p. 112.

The species has a scattered distribution in both parts of New Guinea. The new records verify the occurrence of this species also on Japen Island.

**New records:** 2♀♀, Garaina, Morobe District, N.E. New Guinea, R. Hornabrook (MNZ); 37♂♂♀♀, West Papua, Japen, Serai nach Ambeiduru, km 9, 1000 m, 5.8.1996, leg. Schüle/Stüben (CBM, ZSM); 1♂, 2♀♀, West Papua, Japen, Ambeiduru, 1000m, 6.-10.8.1996, leg. Schüle/Stüben (CBM, ZSM); 1♀, West Papua, Nabire nach Mapia,



km 54, 700 m, 23.7.1996, leg. Schüle/Stüben (ZSM); 1♀, Irian Jaya, Jayawijaya-Pr. Yalmabi, 1200-1400 m, 8.X.1996, leg. A. Riedel (CBM).

**Collecting circumstances:** The specimens from Japen island were collected in “Primärwald”, “Sek.Wald/Busch”, and in “Garten” which means in “primary forest”, “secondary forest to bush”, and “garden”.

*Scopodes violaceus* Baehr

Fig. 9

Baehr, 1994, p. 137, figs 26, 52, 63.

This species was described from an area in eastern central Irian Jaya rather close to the Papuan border. There are now two new records from western central Irian Jaya, demonstrating that this species (like some others) is in fact more widely distributed along the central mountain ranges.

**New records:** 1♀, West Papua, Nabire nach Mapia, km 54, 700 m, 23.7.1996, leg. Schüle/Stüben (ZSM); 1♀, West Papua, Nabire nach Mapia, km 177, Ugida 1400 m, 29.7.1996, leg. Schüle/Stüben (ZSM).

**Collecting circumstances.** The first new record is from “Sek.wald/Busch” (secondary forest) at remarkably low altitude.

*Scopodes adonis* Darlington

Fig. 9

Darlington, 1968, p. 201; Baehr 1994, p. 140, figs 28, 54, 63.

This very peculiar species was thus far known only from the Torricelli Mts. and the Denake Range in the northern part of Papua New Guinea, and it appeared to be a rather locally ranging species. The more interesting is the new record from Japen Island (below) that markedly enlarges the range of this species to the west, but actually is in conformity with the paleogeographic conditions along the northern montane margin of New Guinea. Additional new records of this species from the Western Highlands of Papua New Guinea, however, are evidence of a far wider distribution that contradicts the opinion that this is a species of the northern margin of New Guinea.

**New records:** 1♂, Japen, Sarui nach Ambeidiru, km 9, 1000 m, 5.8.1996, leg. Schüle/Stüben (ZSM); 2♂♂, 1♀, Karimui, New Guinea, 3.73, R. Hornabrook (CBM, MNZ); 5♂♂, 4♀♀, Singaropa 24.4.70/Jimi Valley, Western Highlands, N.E. New Guinea, R. Hornabrook (CBM, MNZ).

**Collecting circumstances.** The specimen from Japen Island was collected at moderate altitude and in “Primärwald” which means virginal rain forest.

*Scopodes hornabrooki*, spec. nov.

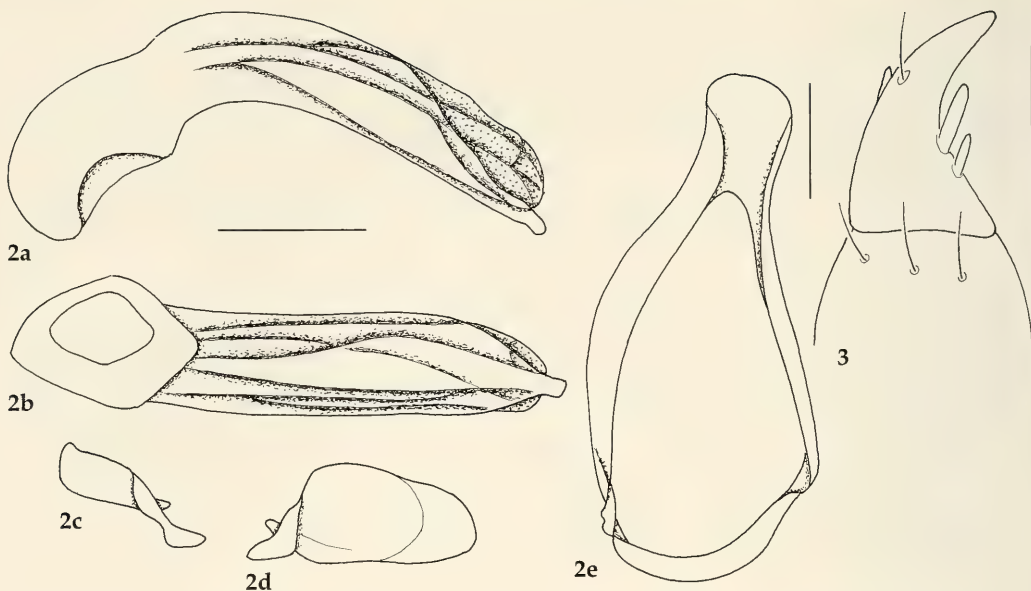
Figs 2, 3, 6, 10

**Types.** Holotype: ♂, Mt. Michael, Frisano, Eastern Highlands, New Guinea, R. Hornabrook, 28/12/74 (MNZ). – Paratypes: 2♀♀, same data (CBM, MNZ).

**Diagnosis.** Small, short and very wide, cupreous species with posteriorly even markedly widened elytra, large, rather contrasting, blue elytral foveae, and yellow legs and yellow antennae. Further distinguished from related species by complete elytral striation and absence of an additional elytral pore at the basis of the 5th stria.

**Description**

Measurements. Length: 3.0-3.4 mm; width: 1.4-1.6 mm. Ratios. Width head/pronotum: 1.22-1.27; width/length of pronotum: 1.25-1.28; width elytra/pronotum: 1.80-1.87; length/width of elytra: 1.20-1.23.



**Figs 2, 3.** *Scopodes hornabrooki*, spec. nov. **2.** ♂ genitalia. For legends see fig. 1. **3.** ♀ genitalia: stylomere 2 and apex of stylomere 1. Scale: 0.1 mm.

**Colour.** Coppery, lateral margins of head, pronotum, and elytra with greenish tinge. Labrum piceous-black, clypeus greenish-black. Antenna yellow, faintly darkened towards apex. Legs light yellow, apices of tarsomeres dark.

**Head.** Eyes large, space between inner border of eyes slightly wider than diameter of eye. Labrum rather short and wide, gently triangular, anterior border fairly convex, 6-setose, in basal part medially impressed. Clypeus with shallow, transverse sulcus, basal part irregularly striate, glossy. Labrum, clypeus, and anterior part of frons with some very inconspicuous additional hairs. Anterior triangular field of frons more or less wrinkled, rather glossy. Frons between eyes with c. 7 deep, rather straight, more or less irregular sulci that reach far posteriorly. Summit and neck coarsely wrinkled, impunctate. Whole upper surface of head rather smooth, glossy. Antenna short, median segments c.  $1.1 \times$  as long as wide.

**Pronotum.** Convex, wide, rather trapezoidal, widest at lateral triangular process in anterior third. Lateral border line distinct. Margin anteriorly convex, posterior of triangular process almost straight, in front of posterior angles not concave. Lateral triangular process distinct, though rather small, triangular, laterally rather projecting. Posterior marginal seta absent. Anterior margin slightly convex, posterior margin straight. Median line distinct, fairly deep, not reaching apex nor base. Transverse sulcus in apical third barely visible. Whole upper surface with coarse, rather dense, in posterior part fairly regular transverse sulci. Surface almost without puncturation, without microreticulation, fairly smooth, glossy.

**Elytra.** Very short and wide, moderately convex. Base comparatively narrow, elytra markedly widened towards apex, widest in apical third. Sides strongly rounded, in anterior third slightly excised. Apex rather wide, apical border oblique, distinctly sinuate. Surface striate throughout, though striation somewhat irregular. Foveae in third interval wide, moderately deep, rather contrasting. Surface rather uneven. Microreticulation conspicuous, consisting of very dense, more or less transverse meshes that are remarkably irregular around the discal foveae. Surface with some sericeous lustre. Pilosity very sparse and short. Marginal pores comparatively large, contrasting. Wings short.

**Lower surface.** Metepisternum c.  $1.3 \times$  as long as wide. Abdominal sternites with extremely sparse and short pilosity, without distinct microreticulation. Terminal visible abdominal sternite with faint medial incision.

♂ genitalia (Fig. 2). Genital ring somewhat deformed, asymmetric, fairly narrow. Apex wide,

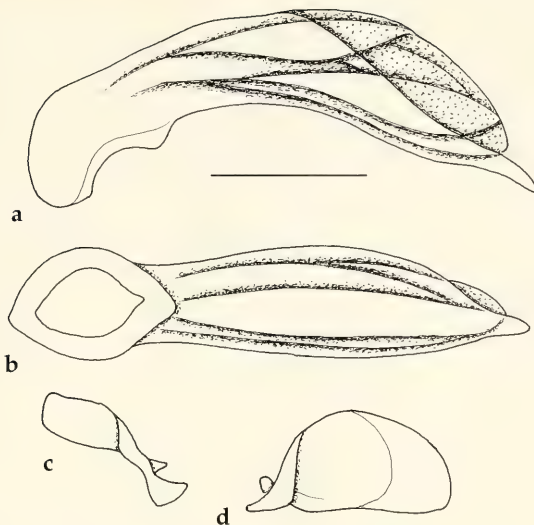


Fig. 4. *Scopodes perignitus*, spec. nov. ♂ genitalia. For legends see fig. 1.

rectangular, arms moderately wide. Aedeagus rather small and compact, fairly curved, slightly asymmetric, lower surface basally concave, in apical half straight, apex short, slightly knob-shaped. Orificium fairly elongate. Parameres large.

♀ genitalia (Fig. 3). Stylomere 2 medium-sized, rather curved, with dorsal ensiform and nematiform seta and with two ventral ensiform setae, namely a longer upper one and a shorter lower one. Apex of stylomere 1 with 3 elongate hairs. Lateral plate fairly densely setose.

Variation. In one of the ♀ paratypes elytral striation less deep, microreticulation less coarse, transverse sulci on pronotum and longitudinal sulci on head more regular, and anterior triangular field of frons almost devoid of wrinkles.

**Distribution** (Fig. 10). Eastern Highlands of Papua New Guinea. Known only from type locality.

**Collecting circumstances.** Unknown.

**Etymology.** The name is a patronym in honour of the collector, R. W. Hornabrook.

**Relationships.** This species is closely related to *S. amplipennis* Baehr which – apart from body shape – can be seen also from the rather similar ♂ genitalia. However, perhaps *S. hornabrooki* is even more closely related to *S. perfoveatus*. Unfortunately, the ♂ genitalia of the latter species have not yet been recorded, but probably they will prove to be quite similar.

*Scopodes perignitus*, spec. nov.

Figs 4, 7, 10

**Types.** Holotype: ♂ (immat.), IRIAN JAYA, Jajawijaya-Pr., Pass between Kwiuwagi and Sinak, 3000 m, 3.I.1996, leg. A. Riedel (ZSM-CBM).

**Diagnosis.** Rather small, fairly elongate, bright coppery species with dark legs, rather wide, posteriorly widened elytra, large, rather contrasting, blue elytral foveae, and irregularly structured surface of the elytra with the striae deeply impressed only near base. Distinguished from related species by colouration and shorter apex of aedeagus.

**Description**

**Measurements.** Length: 3.55 mm; width: ?. Ratios. Width head/pronotum: 1.28; width/length of pronotum: 1.20; width elytra/pronotum: ?; length/width of elytra: ?.



Fig. 5. *Scopodes interruptus*, spec. nov. ♀ genitalia: For legend see fig. 3.

Colour. Surface completely bright coppery. Labrum black, clypeus coppery with greenish margins. Antenna black, basal antennomeres reddish on underface. Legs dark.

Head. Eyes very large, space between inner border of eyes slightly wider than diameter of eye. Labrum rather short and wide, gently triangular, anterior border fairly convex, 6-setose, in basal part medially impressed. Clypeus with shallow, transverse sulcus, basal part strongly striate, glossy. Labrum, clypeus, and anterior part of frons with some very inconspicuous additional hairs. Anterior triangular field of frons coarsely wrinkled. Frons between eyes with c. 6 coarse, irregular sulci that reach far posteriorly. Summit and neck coarsely wrinkled, impunctate. Whole upper surface of head smooth, glossy. Antenna short, median segments c.  $1.1 \times$  as long as wide.

Pronotum. Highly convex, rather wide, trapezoidal, widest at lateral triangular process in anterior third. Lateral border line distinct. Margin anteriorly convex, posterior of triangular process almost straight, in front of posterior angles not concave. Lateral triangular process distinct, though small, triangular, laterally moderately projecting. Posterior marginal seta absent. Anterior margin slightly convex, posterior margin straight. Median line distinct, fairly deep, not reaching apex nor base. Without distinct transverse sulcus in apical third. Whole upper surface with rather dense, coarse, in posterior part regular transverse sulci. Surface almost without puncturation, without microreticulation, fairly smooth, rather glossy.

Elytra. Moderately elongate, moderately convex (though difficult to assess, because specimen rather fresh with somewhat shrunken elytra). Base comparatively narrow, elytra widened towards apex, widest in apical third. Sides strongly rounded, in anterior third somewhat excised. Apex rather wide, apical border oblique, slightly sinuate. Surface in basal fourth deeply striate, in posterior part striation superficial. Foveae in third interval rather wide, moderately deep, rather contrasting. Surface uneven. Microreticulation rather superficial, consisting of very dense, transverse meshes that are remarkably irregular around the discal foveae. Surface with conspicuous, sericeous lustre. Pilosity very sparse and short. Marginal pores comparatively large, contrasting. Wings relatively elongate.

Lower surface. Metepisternum c.  $1.4 \times$  as long as wide. Abdominal sternites with extremely sparse and short pilosity, without distinct microreticulation.

♂ genitalia (Fig. 4). Genital ring barely sclerotized. Aedeagus fairly large, rather curved, slightly asymmetric, lower surface gently bisinuate, apex rather elongate, depressed, faintly turned down. Orificium fairly elongate. Parameres large.

♀ genitalia. Unknown.

Variation. Unknown.

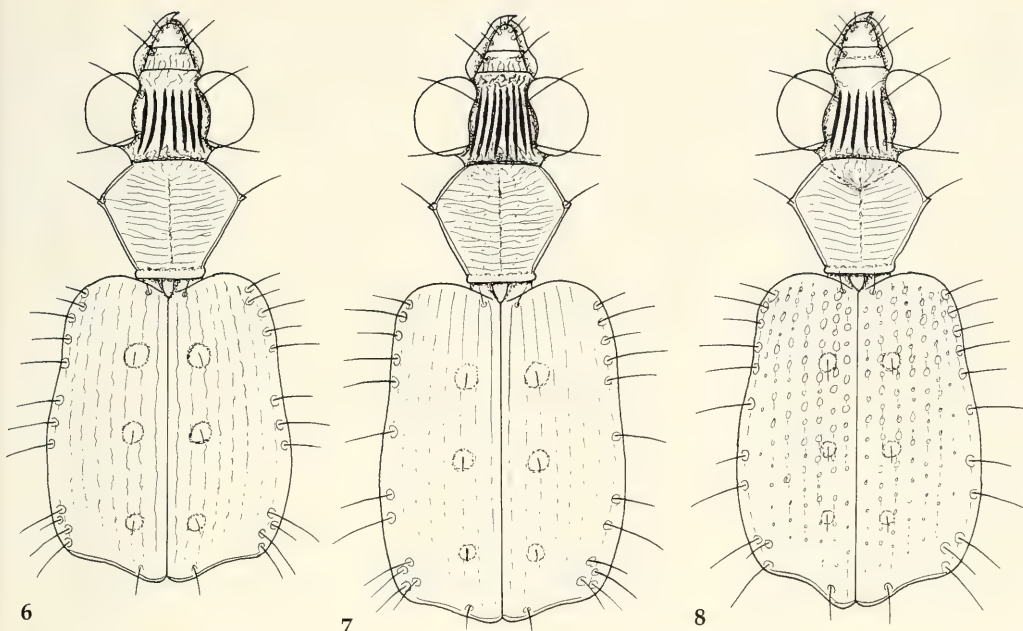
**Distribution** (Fig. 10). Central Irian Jaya. Known only from type locality.

**Collecting circumstances.** Largely unknown. Holotype collected at rather high altitude on track.

**Etymology.** The name refers to the bright red colour of the surface.

**Relationships.** This species belongs to the *chimbu*-group in a restricted sense and it is perhaps most closely related to *S. regularis* Baehr. Unfortunately, the male genitalia of the latter species are yet unrecorded, thus the exact position of *S. perignitus* remains to be fixed.





**Figs 6-8. Habitus.** 6. *Scopodes hornabrooki*, spec. nov. 7. *S. perignitus*, spec. nov. 8. *S. interruptus*, spec. nov. Lengths: 3.0 mm; 3.55 mm; 3.5 mm.

***Scopodes interruptus*, spec. nov.**

Figs 5, 8, 10

**Types.** Holotype: ♀, IRIAN JAYA, Panai-Pr., Mt. Doorman-Range N. Bilogay, 3000 m, 27.XII.1995, leg. A. Riedel (ZSM-CBM).

**Diagnosis.** Rather small, short and wide, coppery-bronzed species with remarkably glossy surface, piceous legs, moderately wide, posteriorly little widened elytra, blue, though not contrasting, elytral foveae, and irregularly structured surface of the elytra with markedly interrupted striae. Further distinguished by very short antenna, shallow, regular frontal sulci, and shallow transverse pronotal sulci.

**Description**

**Measurements.** Length: 3.5 mm; width: 1.5 mm. Ratios. Width head/pronotum: 1.21; width/length of pronotum: 1.28; width elytra/pronotum: 1.80; length/width of elytra: 1.27.

**Colour.** Coppery-bronzed, lateral margins of head, pronotum, and elytra with faint greenish lustre. Labrum black. Antenna piceous, four basal antennomeres yellowish. Legs light piceous, tibiae even dark reddish.

**Head.** Eyes rather large, space between inner border of eyes slightly wider than diameter of eye. Labrum rather short and wide, gently triangular, anterior border fairly convex, 6-setose, in basal part medially impressed. Clypeus with distinct, transverse sulcus, basal with shallow striae, rather smooth, glossy, apical part markedly convex. Labrum, clypeus, and anterior part of frons with few extremely inconspicuous additional hairs. Anterior triangular field of frons not wrinkled, smooth, glossy. Frons between eyes with c. 6 shallow, straight, regular sulci that reach far posteriorly. Summit and neck coarsely wrinkled, impunctate. Whole upper surface of head smooth, very glossy. Antenna very short, moniliform, median segments slightly wider than long.

**Pronotum.** Rather convex, very wide, rather trapezoidal, widest at lateral triangular process in anterior third. Lateral border line distinct. Margin anteriorly convex, posterior of triangular process almost straight, in front of posterior angles not concave. Lateral triangular process distinct, though



Fig. 9. Revised distribution of *Scopodes chimbu viridans* Baehr: ■; *S. wilsoni* Darlington: ◆; *S. minor* Baehr: ▼; *S. violaceus* Baehr: ▲; and *S. adonis* Darlington: ●.

small, triangular, laterally fairly projecting. Posterior marginal seta absent. Anterior margin slightly convex, posterior margin straight. Median line distinct, deep, not reaching apex nor base. In apical third with rather deep and wide, transverse sulcus. Whole upper surface with rather coarse, moderately sparse, in middle shallow, fairly irregular transverse sulci. Surface almost without puncturation, without microreticulation, smooth, glossy.

Elytra. Moderately wide, fairly convex. Base comparatively wide, elytra little widened towards apex, widest in apical third. Sides rounded, in anterior third somewhat excised. Apex rather wide, apical border oblique, distinctly sinuate. Lateral and apical margins wide, conspicuous. Surface deeply striate throughout, though striae markedly interrupted and merely consisting of rows of large punctures. Foveae in third interval wide, rather deep, moderately contrasting. Surface markedly uneven. Microreticulation absent from disk, present only near apex. Surface very glossy. Pilosity very sparse and short. Marginal pores comparatively large, rather contrasting. Wings fairly short.

Lower surface. Metepisternum c.  $1.3 \times$  as long as wide. Abdominal sternites with extremely sparse and short pilosity, without distinct microreticulation. Terminal visible abdominal sternite with rather distinct medial incision.

♂ genitalia. Unknown.

♀ genitalia (Fig. 5). Stylomere 2 medium-sized, rather curved, with dorsal ensiform and nematiform seta and with two elongate ventral ensiform setae. Apex of stylomere 1 with 3-4 elongate hairs. Lateral plate fairly densely setose.

Variation. Unknown.

**Distribution** (Fig. 10). Central Irian Jaya. Known only from type locality.

**Collecting circumstances.** Largely unknown. Holotype collected in rather high altitude by beating from moss-grown scrub.

**Etymology.** The name refers to the conspicuously interrupted elytral intervals.

**Relationships.** This is an outstanding species, not closely related to any of the known New Guinean species. Its actual position perhaps will remain unsettled until the ♂ genitalia are recorded.



Fig. 10. Distribution of *Scopodes hornabrooki*, spec. nov.: ●; *S. perignitus*, spec. nov.: ■; *S. interruptus*, spec. nov.: ◆.

### Recognition

Because of the several new taxa described in the 1<sup>st</sup> supplement (Baehr 1995) and in this 2<sup>nd</sup> supplement, the key to the species of the *chimbu*- and *violaceus*-groups is completely revised and should replace the keys in the 1<sup>st</sup> supplement as well as the first part of the general key in the revision (Baehr 1994). The latter key to couplet 15 included is replaced here by a completely new key. The couplet numbers of the second part of the key in the revision then must be changed from number 16 which will change to number 23 and so on. For the benefit of the user the figures of the revision and the 1<sup>st</sup> supplement are added as BA94 fig. and BA95 fig., respectively.

#### Revised key to the species of the *altus*-, *chimbu*- and *violaceus*-groups of the genus *Scopodes*

1. Prothorax with 2 setae each side, the posterior seta on conspicuous dentiform process; depressed, black species; elytra completely striate. Central Irian Jaya ..... *altus* Darlington
- Prothorax with only 1 seta each side, in anterior third, without posterior-lateral seta and process ..... 2.
2. Elytra with conspicuous, irregular, sericeous pattern or markedly microreticulate, extensively but irregularly striate; foveae in 3<sup>rd</sup> interval large, though shallow ..... 3.
- Elytra without conspicuous sericeous pattern, microreticulation usually less marked, rather superficial or at all absent, striation variable, though usually less extensive; foveae in 3<sup>rd</sup> interval either large and deep, or very small and inconspicuous ..... 18.
3. Foveae in 3<sup>rd</sup> interval more or less conspicuously blue; legs always uniformly yellow or light reddish ..... 4.
- Foveae in 3<sup>rd</sup> interval not or but faintly blue; legs dark, at most tibiae reddish or light piceous, or uniformly light, in that case colour vividly cupreous or greenish-cupreous and aedeagus with wide, spatulate, laterally hooked apex ..... 10.
4. Elytra very short and wide, ratio length/width c. 1.20, posteriorly remarkably widened (Fig. 6; BA95 figs 2, 3); elytral striae at least in basal third coarse and deep ..... 5.



- Elytra longer and less wide, ratio length/width >1.30, posteriorly barely widened, elytral striae in basal third fine and rather shallow as in posterior part ..... 7.
- 5. Colour cupreous; transverse striae of pronotum coarse and irregular; microreticulation of elytra very distinct; aedeagus with straight lower surface and with slightly knob-shaped apex, or unknown ..... 6.
- Colour blackish-bronzed with greenish and purplish tinge; transverse striae of pronotum less coarse, rather regular; microreticulation of elytra superficial; aedeagus with evenly concave lower surface and with short, markedly knob-like apex (Fig. 1). Central Irian Jaya ..... *amplipennis* Baehr
- 6. Antenna black, only basal antennomeres yellowish; elytral striae only in basal third deep, posteriorly very shallow; besides the foveae at 3<sup>rd</sup> stria a setiferous fovea present in basal fourth of 5th stria (BA95 fig. 3); aedeagus unknown. Western Highlands of Papua New Guinea ... *perfoveatus* Baehr
- Antenna yellow throughout, at most slightly darker towards apex; elytral striae deep throughout; without additional foveae at 5th stria (Fig. 6); aedeagus with straight lower surface and with slightly knob-shaped apex (Fig. 2). Eastern Highlands of Papua New Guinea ..... *hornabrooki*, spec. nov.
- 7. Smaller species (c. 3.5 mm); colour bronzed or somewhat greenish; antenna almost completely reddish, short, median segments c. as wide as long; frontal sulci fewer, c. 6; aedeagus with simple apex (BA94 fig. 9). Eastern central Papua New Guinea ..... *tafa* Darlington
- Larger species (>4 mm); colour either bright green, or bronzed without any green reflections, or cupreous, or pronotum and head green, elytra cupreous; antenna with 4 basal segments yellow, rest more or less contrastingly dark, longer, median segments distinctly longer than wide; frontal sulci more numerous, 8-9; aedeagus either with knob-like apex or simple, in latter case either colour bright green or microreticulation of elytra almost isodiametric. .... 8.
- 8. Colour completely bronzed; microreticulation of elytra feebly transverse or almost isodiametric; aedeagus rather straight, apex of ♂ genital ring elongate (BA94 fig. 12). Eastern central Irian Jaya. .... *reticulatus* Baehr
- Colour bright green, or cupreous, or head and prothorax green, elytra cupreous; microreticulation of elytra markedly transverse; aedeagus rather convex, apex of ♂ genital ring short (BA94 figs 10, 11) ..... 9.
- 9. Colour always completely bright green; elytral foveae very contrastingly blue; aedeagus with simple apex (BA94 fig. 11). Eastern central Papua New Guinea, eastern central Irian Jaya, Vogelkop, westernmost Irian Jaya ..... *foveipennis* Baehr
- Colour completely cupreous or head and prothorax green, elytra cupreous; elytral foveae less contrastingly blue; aedeagus with knob-like apex (BA94 fig. 10). Eastern central Papua New Guinea ..... *viridiaeneus* Baehr
- 10. Femora yellow or light reddish ..... 11.
- Femora dark ..... 12.
- 11. Large, wide species with cupreous elytral suture; aedeagus with wide, spatulate, laterally hooked apex (BA94 fig. 8). Central eastern Papua New Guinea ..... *wei* Bell & Bell
- Smaller, narrower, uniformly greenish species without cupreous elytral suture; aedeagus with narrow, elongate, tapering apex (BA95 fig. 5). Central Irian Jaya ..... *muliae* Baehr
- 12. Smaller species, length <3.8 mm; antenna short, median antennomeres almost as wide as long; aedeagus (when known) without knob-like apex and without sharp lateral edge (Fig. 4; BA94 fig. 3) ..... 13.
- Larger species, length >4.0 mm; antenna longer, median antennomeres >1.3 × as long as wide; aedeagus with knob-like apex and/or with sharp lateral edge (BA94 figs 4, 6, 7) ..... 16.
- 13. Colour bright cupreous throughout; aedeagus with shorter, slightly downturned apex (Fig. 4). Central Irian Jaya ..... *perignitus*, spec. nov.



- Colour green or blackish-bronzed; aedeagus with longer apex. (BA94 fig. 3), or unknown, in latter case striation of elytra almost wanting except near base ..... 14.
- 14. Frontal sulci parallel, markedly regular; antenna reddish throughout, only terminal antennomeres slightly darkened; striae of elytra almost wanting except near base; clypeus and labrum blackish-aeneous, contrastingly coloured; ♂ genitalia unknown. Eastern central part of Papua New Guinea ..... *regularis* Baehr
- Frontal sulci less parallel and regular; antenna dark, only four basal antennomeres lighter; striae of elytra distinct throughout; clypeus and labrum not contrastingly coloured; aedeagus with elongate, depressed apex (BA94 fig. 3) ..... 15.
- 15. Colour green. Central Papua New Guinea, central Irian Jaya ..... *chimbu viridans* Baehr
- Colour blackish-bronzed, head and pronotum with some greenish tinge. Eastern central Papua New Guinea ..... *chimbu chimbu* Darlington
- 16. Colour plain green, only labrum blackish-green; elytra slightly shorter, ratio l/w 1.36; apex of aedeagus slightly knob-like, but without sharp lateral edge (BA94 fig. 4). Northeastern Papua New Guinea ..... *virescens* Baehr
- Colour cupreous, or blackish with dark greenish, bluish, or cupreous tinge; elytra more elongate, ratio l/w >1.4; lower surface of aedeagus laterally with sharp edge, apex more or less widened (BA94 figs 6, 7) ..... 17.
- 17. Antenna slightly shorter, median segments c. 1.3-1.4 × as long as wide, basal antennomeres less contrastingly coloured; ♂ genital ring laterally at apex excised (BA94 fig. 6e); aedeagus shorter, more curved, laterally more sinuate, apex distinctly knob-like (BA94 fig. 6). Eastern central Papua New Guinea ..... *aspericollis* Baehr
- Antenna slightly longer, median segments almost 1.5 × as long as wide, basal antennomeres very contrastingly coloured; ♂ genital ring laterally at apex not excised (BA94 fig. 7e); aedeagus longer, less curved, laterally less sinuate, apex not distinctly knob-like (BA94 fig. 7). Eastern central Irian Jaya ..... *cuprascens* Baehr
- 18. Pronotum without lateral margin, without lateral triangular process; elytra elongate and egg-shaped, apical margin deeply concave, inner angle acute; foveae in 3<sup>rd</sup> interval minute; aedeagus with depressed, laterally hooked apex (BA94 fig. 28). Scattered throughout New Guinea, also on Japen Island ..... *adonis* Darlington
- Pronotum with distinct lateral margin, with lateral triangular process; elytra wider, not egg-shaped, apical margin at most feebly concave, inner angle obtuse; foveae in 3<sup>rd</sup> interval large or, rarely, small; aedeagus different ..... 19.
- 19. Foveae in 3<sup>rd</sup> interval small, barely visible; ♂ genitalia see BA94 figs 26, 27; BA95 fig. 8. .... 20.
- Foveae in 3<sup>rd</sup> interval always large and conspicuous; ♂ genitalia, when known, see BA94 figs 13-15, 17-23, 25 ..... 22.
- 20. Colour violaceous; apex of aedeagus not knob-like (BA94 figs 26, 27) ..... 21.
- Colour not violaceous, forebody greenish, elytra black with golden tinge; aedeagus ventrally striolate, apex slightly knob-like (BA95 fig. 8). Central eastern Irian Jaya ..... *balkei* Baehr
- 21. Foveae in 3<sup>rd</sup> interval usually smaller, barely visible; elytra almost non-striate; apex of aedeagus not lancet-shaped (BA94 fig. 26); ♀ sternum VII without distinct notch in middle of apical margin. Central Irian Jaya ..... *violaceus* Baehr
- Foveae in 3<sup>rd</sup> interval usually larger, well visible; elytra usually feebly striate; apex of aedeagus lancet-shaped (BA94 fig. 27); ♀ sternum VII with distinct notch in middle of apical margin. Vogelkop, western Irian Jaya ..... *riedeli* Baehr
- 22. Elytra deeply striate, though striae markedly interrupted and consisting of rows of irregular punctures (Fig. 10); antenna moniliform, median antennomeres wider than long; ♂ genitalia unknown. Central Irian Jaya ..... *interruptus*, spec. nov.

- Elytra less striate, or striae not markedly interrupted and consisting of rows of irregular punctures; antenna usually longer, never moniliform ..... 23.  
23. = 16. of key in the revision (Baehr 1994).

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### Updated alphabetical checklist of the valid New Guinean species of the genus *Scopodes*

Since publication of my revision (Baehr 1994), altogether 7 new species and one additional subspecies have been described, hence an updated checklist of the presently known 35 New Guinean taxa is useful.

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|---------------------------------------|----------------------------------|
| <i>adonis</i> Darlington, 1971        | <i>minor</i> Baehr, 1994         |
| <i>altus</i> Darlington, 1971         | <i>muliae</i> Baehr, 1995        |
| <i>amplipennis</i> Baehr, 1995        | <i>perfoveatus</i> Baehr, 1995   |
| <i>aspericollis</i> Baehr, 1994       | <i>perignitus</i> , spec. nov.   |
| <i>atricornis</i> Baehr, 1994         | <i>regularis</i> Baehr, 1994     |
| <i>balkei</i> Baehr, 1995             | <i>reticulatus</i> Baehr, 1994   |
| <i>bicolor</i> Baehr, 1994            | <i>riedeli</i> Baehr, 1994       |
| <i>caeruleus</i> Baehr, 1994          | <i>robustus</i> Baehr, 1994      |
| <i>chalceus</i> Baehr, 1994           | <i>rufipes</i> Baehr, 1994       |
| <i>cheesmannae</i> Darlington, 1971   | <i>striaticollis</i> Baehr, 1994 |
| <i>chimbu chimbu</i> Darlington, 1971 | <i>tafa</i> Darlington, 1971     |
| <i>chimbu viridans</i> Baehr, 1995    | <i>tristis</i> Baehr, 1994       |
| <i>cuprascens</i> Baehr, 1994         | <i>violaceus</i> Baehr, 1994     |
| <i>darlingtoni</i> Baehr, 1994        | <i>virescens</i> Baehr, 1994     |
| <i>foveipennis</i> Baehr, 1994        | <i>viridiaeneus</i> Baehr, 1994  |
| <i>hornabrooki</i> , spec. nov.       | <i>wei</i> Bell & Bell, 1989     |
| <i>interruptus</i> , spec. nov.       | <i>wilsoni</i> Darlington, 1971  |
| <i>laevifrons</i> Baehr, 1994         |                                  |